**REMARKS:**

Examiner Pond is thanked for the courtesy of a personal interview on March 5, 2008, at which time proposed amendments to claim 1 were discussed, the inventive concept, and the rejections under 35 USC §§ 101 and 112. Applicant sincerely appreciates the Examiner's efforts in this matter.

Claim 1 has been amended as discussed with the Examiner, and claims 8, 11, 13 and 14 have been amended in light thereof. No new matter has been added. Reconsideration of the application in amended form is respectfully requested.

**Introduction**

During the interview, Examiner Pond suggested providing some additional information about the inventive concept and background information relating thereto. Various online articles and website excerpts are footnoted in support hereof. Additional information is provided for each footnote in Appendix A attached hereto. If the Examiner wishes, Applicant can submit the referenced website pages in a formal Information Disclosure Statement.

Applicant's invention is directed to a method of increasing win probability of a vendor competing in a large complex contract competition. As known in the art, a buying-organization formulates contract requirements and submits the requirements to one or more vendors. The vendors (competing vendors) provide responses to the buying-organization. Large complex contracts are awarded through formal and informal bidding processes, sealed bids, or as sole-source contracts. The buying-organization's decisions involved in awarding large complex contracts to a particular vendor involves knowledge transfer of both the vendor's capabilities and the buying-organization's requirements or

the particular needs being addressed within the large complex contract structure. The buying-organization typically uses a multi-person process, referred to herein as the "decision-makers," through two discrete decision phases, edit and evaluation, to select the final vendor and award the contract.

In large complex contract decisions, it is difficult for the competing vendors to define the buying-organization's decision-logic. This is due to the complexity of the contract requirements and cost elements, the methods in which the competing vendors differentiate their products and services, and the confidentiality of the buying-organization's decision process. Applicant's claimed invention provides a framework that utilizes a computational approach, providing useful, rigorous, and repeatable results that can be used by a trained consultant to increase the win probability of a vendor competing in large complex contract competitions.

The pursuit of large complex contracts requires that the competing vendors dedicate resources experienced in the art of pursuing large complex contracts, in both the services and products being sold, the buying organization's unique contract requirements within the context of its industry characteristics and trends, as well as differentiating characteristics of the competing vendors. A typical competing vendor's pursuit costs can range from 1%-5% of the total contract value. For example, a contract valued at $300 million can cost each competing vendor between $3 million to $15 million in pursuit costs, with a win probability as low as 30%. The pursuit can constrain valuable resources from six to eighteen months.

Due to the resources required, and the importance of the pursuit; vendors that pursue large complex contracts typically have internal strategic business units (SBUs)

that are responsible for continually collecting industry data from both primary and secondary sources, critical to pursuing large complex contracts.[1] Data is structured along well-established industry classification systems (e.g., the North American Industry Classification System (NAICS)[2], a 6-digit code developed jointly by the U.S., Canada, and Mexico, and used internationally; the Standard Industrial Classification (SIC), a 4-digit code replaced by NAICS in 1997; the Statistical Classification of Economic Activities; Complete NACE (Classification of Economic Activities in the European Community) and corresponding ISIC (International Standard Industrial Classification); National Classifications, United Nations, 2004, classifications for activities and products in areas and countries all over the world; and the Global Industry Classification Standard (GICS)[3], developed by Morgan Stanley Capital International (MSCI)[4] and Standard & Poor's (S&P), and designed for financial community's need for standard industry definitions. The GICS structure consists of 10 sectors, 24 industry groups, 62 industries, and 132 sub-industries)[5].

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[1] http://www.library.jcu.edu.au/LibraryGuides/primsrcs.shtml

[2] http://www.census.gov/epcd/www/naics.html

[3] http://www2.standardandpoors.com/portal/site/sp/en/us/page.topic/indices/gics; Standard & Poor's and MSCI Barra jointly developed the Global Industry Classification Standard (GICS®) which establishes a common, global standard of industry classifications for companies worldwide.

[4] The Emerging Markets Index is a float-adjusted market capitalization index. As of May 2005, it consisted of indices in 26 emerging economies: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey and Venezuela (http://www.investopedia.com/terms/e/emergingmarketsindex.asp).

[5] http://www.library.hbs.edu/guides/industry_research/index_print.html

In addition to the standards in defining an industry, there are well-established and acknowledged tools used in industry analysis (e.g., Michael E. Porter[6], "Competitive Strategy", The Free Press, 1980; the resource-based view established by Edith Penrose "The Theory of the Growth of the Firm" (1959), Oxford; Basil Blackwell, 3rd Ed. (1995), Oxford, Oxford University Press), tools for determining trends and conducting analysis), as well as established techniques using game theoretic and industrial organizational (IO) econometric approaches (National Bureau of Economic Research (NBER).[7] Indeed, these standards are a core component of the curriculum taught in business schools, and well known and used by practitioners around the world.

Indeed, the competing vendor SBUs typically have extensive budgets to purchase such industry and firm data from research firms. For over thirty years a number of companies have specialized in providing research to support vendors pursing large complex bids. For example, a resource for such industry data is "The Institute for Strategy and Competitiveness", based at Harvard Business School and led by Michael E. Porter, Bishop William Lawrence University Professor. "The Institute" is dedicated to extending the research pioneered by Professor Porter and disseminating it to scholars and

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[6] Michael E. Porter is a leading authority on competitive strategy, the competitiveness and economic development of nations, states, and regions, and the application of competitive principles to social problems such as health care, the environment, and corporate responsibility [http://drfd.hbs.edu/fit/public/facultyInfo.do?facInfo=bio&facEmId=mporter&loc=extn].

[7] The NBER's Program on Industrial Organization (IO) (http://www.nber.org/programs/io/io.html) celebrates its fifteenth anniversary this year. Researchers in the IO program explore a wide range of topics within the field. Rather than attempting to skim the full scope of program activity, this report highlights work in three broad areas: regulation and antitrust policy; pricing behavior by firms; and auctions markets.(2) Discussion of the substantial body of research on technology and technical change is deferred to reports of the Productivity Program and the NBER Project on Industrial Technology and Productivity. Those interested in learning more about the IO program may visit the NBER website for links to the full set of Industrial Organization Working Papers: http://www.nber.org/programs/io/io.html

practitioners on a global basis.[8] The Institute has one of the most extensive company and industry financial performance profitability databases. The Institute, in collaboration with Professor Anita McGahan at Boston University, has assembled a large body of data on the performance of all publicly traded business (industries) segments and companies in the United States over the 1981 to 1999 period. This data identifies the causes of company performance, and provides benchmarks for practitioners to compare performance across companies and industries.[9] Another example of a research company that specializes in providing information in the information technology (IT) industry has been Gartner, Inc.[10], the world's leading IT research and advisory company, and a key player in providing research to some of the largest companies in the world pursuing large complex contracts.

Multi-national financial organizations release formal bids for large complex contracts to support their information technology (IT) infrastructure. The IT contracts can have a value that exceed several million dollars, requiring the transfer of key assets (including employees), providing equipment, and services for multiple years. Large complex IT contracts are designed to support the core infrastructure of an organization, and are considered of significant strategic importance by both the buying-organization and competing vendors. Large complex contracts contribute over thirty percent (30%) of revenue to the top IT vendors in the World. For example, in October 2000, Pennant Alliance, a consortium of companies led by Computer Sciences Corporation, was

[8] http://www.isc.hbs.edu/

[9] http://www.isc.hbs.edu/firm-financperform.htm

[10] http://www.gartner.com/it/about_gartner.jsp

awarded a contract valued at $644 million over seven years with three additional one-year option periods to create a virtual government for the County of San Diego. The contract covered the full spectrum of information and telecommunications services, including applications, help desk, networks, desktop and data center operations, telephones and pagers. Approximately 290 county employees were given the option to join CSC or SAIC with an immediate seven percent base salary increase plus guaranteed employment in San Diego County for minimum of two years.[11] A more recent example, on September 1, 2005, the Dutch banking giant ABN AMRO awarded a major five-year IT outsourcing contract to five vendors, headed by IBM. The contract was a strategic component of ABN Amro's efficiency program announced in December of 2004. According to a Wall Street Journal article dated 1 September 2005, approximately 1,800 ABN jobs will be transferred to IBM, with another 1,500 full-time information-technology jobs being eliminated. The bank retained 1,800 information-technology jobs, performing "strategic functions such as testing new software applications on legacy systems," as well as handling sensitive security-related issues.[12]

**Claim Amendments**

Claims 1, 8, 11, 13 and 14 have been amended in clarification and in light of the discussions with Examiner Pond. As noted above, industries have been classified by various organizations, and each specific industry includes industry standards attributable thereto. Change in wealth factors and neutral valuations for such factors are available from such industry standards, are known by those skilled in the art, and are readily

[11] http://www.csc.com/newsandevents/news/657.shtml

[12] http://www.sourcingmag.com/blog/archive/abn_amro_awards_major_outsourcing_contract.html

available from various research and data firms. Such data has been compiled over the past several decades.

The change in wealth factors vary depending on the particular industry section. However, such factors are known, and values associated with 'neutral' behavior attributable thereto. Indeed, Applicant discusses this variability in the specification:

> The value position is determined by any changes in wealth of the buying-organization. The change in wealth may be determined by specific factors, such as those enumerated above (i.e. business factors, environmental factors, market changes, technology issues, internal issues, governance issues, and information/operational risks). The factors to be considered may vary depending on the particular industry. Therefore, the factors being considered are first identified at 10. Each factor is then assigned a value at 20 by comparing the factor to the particular industry standard.

Specification, p. 15, lines 16-22.

Applicant has amended independent claims 1 and 8 to now provide for identifying an industry (i.e. a particular industry section), wherein the identified industry includes industry standards. Within the industry standards, a plurality of change in wealth factors are provided. Examples of such factors are disclosed in the specification on page 14, lines 20, and set forth in claim 10. Claims 1 and 8 also now provide for identifying a plurality of change in wealth factors (which would be specific to the identified industry). A numerical industry standard value is attributed to each of the plurality of change in wealth factors, and readily available from search and data firms.

The assigning step has also been clarified in independent claims 1, 8, 13 and 14 to provide for assigning a numerical value from a numerical range to each of the identified plurality of change in wealth factors of the buying organization. The assigning step

further specifies that each of the change in wealth factors is compared to the industry standard. The numerical industry standard value (i.e. representing neutral behavior) is assigned if the change in wealth factor is neutral relative to the industry standard. A numerical value greater than the numerical industry standard value is assigned if the change in wealth factor is positive relative to the industry standard. A numerical value less than the numerical industry standard value is assigned if the change in wealth factor is negative relative to the industry standard. As explained in further detail below, it is irrelevant to the outcome whether the increase or decrease varies between different users, though such variation is unlikely, or at most minimal, when the claimed method is applied by those of skill in the art. The outcome will be the same, and thus the invention renders a concrete result as required by 35 USC § 101.

Applicant has also clarified the adjusting step in independent claims 1, 8, 13 and 14, which now provides for adjusting each of the assigned numerical values by a predetermined unit depending on a time frame in which the change in wealth factor occurred, wherein the assigned numerical value is increased if the time frame is short relative to the industry standard, and the assigned numerical value is decreased if the time frame is long relative to the industry standard. What would be considered a 'short' or a 'long' time frame is relative to the industry standard, as specified in the claim, and would be readily apparent to one skilled in the art and knowledgeable about the particular industry (i.e. identified industry).

An additional 'tallying' step has been added to clarify the claimed invention. Specifically, claims 1, 8, 13 and 14 now provide for tallying the numerical industry standard values for each of the identified change in wealth factors to provide a total

industry standard value. The total industry standard value and a variance therefrom defines a central value range. This step renders a numerical value range, to which the 'total value' (the tallied adjusted, assigned numerical values) is compared.

The total value is then compared to the central value range. A neutral value position is assigned if the total value is within the central value range; a positive value position is assigned if the total value is greater than the central value range; a negative value position is assigned if the total value is less than the central value range.

In the Office Action, concern was raised as to whether such assigning would render a different result depending on the particular user. Specifically, the Examiner questioned whether the 'assigning', 'adjusting' and 'framing' actions, as previously claimed, may be subject to unpredictable input based individual interpretation of the data. The framing steps have been amended in clarification, and obviate any such objection. Specifically, claims 1 and 8 provide for framing a response of an overall loss to the request based on the calculated value position if the assigned value position is positive or negative. A response of an overall gain is framed to the request based on the calculated value position if the assigned value position is neutral. As such, any slight deviations which may otherwise occur are eliminated in light of the framing steps. This concept is discussed in the specification:

> Regardless of the valuation method that is applied to each factor, the resulting value position will be neutral if there is no substantial change in wealth of the buying organization. The greater the disparity between the absolute value of the calculated total value compared to the central reference range, the more substantial the value position. If the value position is neutral, the initial choice set is framed in terms of gains. *If the*

*value position is either positive or negative, the initial choice set is framed in terms of losses.*

Specification, p. 17, lines 17-23 (emphasis added).

In addition to claims 1 and 8, Applicant has amended claim 11 to provide for framing the response in terms of an overall loss or an overall gain, depending on the assigned value position. Claim 7 has been canceled.

**Claim Rejections Under 35 U.S.C. § 101**

In light of the amendments and remarks herein, Applicant submits that all rejections under Section 101 are now moot, and respectfully requests withdrawal of same. Specifically, the 'assigning' and 'adjusting' steps have been clarified, and set forth predictable and repeatable steps for assigning and adjusting the subject numerical steps. Moreover, claims 1 and 8 provide for additional framing steps which render any slight user variations irrelevant. Applicant has replaced the term "predetermined range" with "central range". The central range is clearly defined in the newly added 'tallying' step, which provides that the central value range is defined by a total industry standard value and a variance therefrom.

As noted above, industry standards and valuation information is readily available from various search and data firms, and well known to those of skill in the art. For example, such data is available from The Institute for Strategy and Competitiveness.

Applicant submits that all pending claims produce a useful, concrete and tangible result.

**Claim Rejections Under 35 U.S.C. 112, First Paragraph**

In light of the remarks above, as well as the amendments herein, Applicant submits that the claims are fully enabled. The objection again focuses on the steps for

'assigning numerical values', 'adjusting each of the assigned numerical values', 'establishing a predetermined range', and 'framing a response'. As these steps have been amended in clarification, and in light of the arguments and information herein, Applicant submits that these rejections are likewise now moot.

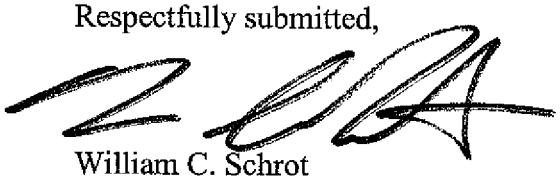
**Claim Rejections Under 35 U.S.C. 112, Second Paragraph**

The preamble of claim 1 now provides for "A method of competing in a complex contract competition". Accordingly, Applicant submits that this rejection is likewise now moot.

**Conclusion**

In light of the amendments and remarks herein, Applicant respectfully requests allowance of all pending claims. It is believed that no fee is due with this submission. Should that determination be incorrect, then please debit Account No. 50-0548 and notify the undersigned.

Respectfully submitted,



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PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | | |
|---|---|---|---|---|
| In re Application of: | | : | | |
| Stephany Jean Head | | : | Art Unit: | 3625 |
| Serial No. | 10/663,912 | : | Examiner: | Robert M. Pond |
| Filed: | September 17, 2003 | : | Atty Dkt: | 4803.100 |
| For: | A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS | | | |

# APPENDIX A TO RESPONSE AND AMENDMENT

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100

**FOOTNOTE 1:** [1] http://www.library.jcu.edu.au/LibraryGuides/primsrcs.shtml

## Introduction

Sources of information are generally categorised as primary, secondary or tertiary depending on their originality and their proximity to the source or origin. For example, scientific information moves through a dissemination cycle. Initially, findings might be communicated informally by email, then presented at meetings before being formally published as a primary source. Once published, they will then be indexed in a bibliographic database, and repackaged and commented upon by others in secondary sources. The designations of primary, secondary and tertiary differ between disciplines or subjects, particularly between what can generally be defined as the sciences and the humanities. Primary sources for critic studying the literature of the Second World War are different from those for a research scientist investigating a new drug for arthritis. The critic's primary sources are the poems, stories, and films of the era. The research scientist's primary sources are the results of laboratory tests and the medical records of patients treated with the drug. You should always check with your lecturer or tutor if in doubt.

## Primary Sources

**Some definitions of primary sources:**

- Primary sources are original materials on which other research is based
- They are usually the first formal appearance of results in the print or electronic literature (for example, the first publication of the results of scientific investigations is a primary source.)
- They present information in its original form, neither interpreted nor condensed nor evaluated by other writers.
- They are from the time period (for example, something written close to when what it is recording happened is likely to be a primary source.)
- Primary sources present original thinking, report on discoveries, or share new information.

**Some examples of primary sources:**

- scientific journal articles reporting experimental research results
- proceedings of Meetings, Conferences and Symposia.
- technical reports
- dissertations or theses (*may also be secondary*)
- patents
- sets of data, such as census statistics
- works of literature (such as poems and fiction)
- diaries

- autobiographies
- interviews, surveys and fieldwork
- letters and correspondence
- speeches
- newspaper articles (*may also be secondary*)
- government documents
- photographs and works of art
- original documents (such as birth certificate or trial transcripts)
- Internet communications on email, listservs, and newsgroups

## Secondary Sources

Secondary sources are less easily defined than primary sources. What some define as a secondary source, others define as a tertiary source. Nor is it always easy to distinguish primary from secondary sources. A newspaper article is a primary source if it reports events, but a secondary source if it analyses and comments on those events. In science, secondary sources are those which simplify the process of finding and evaluating the primary literature. They tend to be works which repackage, reorganize, reinterpret, summarise, index or otherwise "add value" to the new information reported in the primary literature. More generally, secondary sources

**Some Definitions of Secondary Sources:**

- describe, interpret, analyze and evaluate the primary sources
- comment on and discuss the evidence provided by primary sources
- are works which are one or more steps removed from the event or information they refer to, being written after the fact with the benefit of hindsight.

**Some examples of secondary sources:**

- bibliographies (*may also be tertiary*)
- biographical works
- commentaries
- dictionaries and encyclopedias (*may also be tertiary*)
- dissertations or theses (*more usually primary*)
- handbooks and data compilations (*may also be tertiary*)
- history
- indexing and abstracting tools used to locate primary & secondary sources (*may also be tertiary*)
- journal articles, particularly in disciplines other than science (*may also be primary*)
- monographs (other than fiction and autobiography)
- newspaper and popular magazine articles (*may also be primary*)
- review articles and literature reviews
- textbooks (*may also be tertiary*)
- treatises works of criticism and interpretation

## Tertiary Sources

This is the most problematic category of all. Fortunately, you will rarely be expected to differentiate between secondary and tertiary sources.

**Some Definitions of Tertiary Sources:**

- works which list primary and secondary resources in a specific subject area
- works which index, organize and compile citations to, and show you how to use, secondary (and sometimes primary) sources.
- materials in which the information from secondary sources has been "digested" - reformatted and condensed, to put it into a convenient, easy-to-read form.
- Sources which are once removed in time from secondary sources

**Some examples of tertiary sources:**

- almanacs and fact books
- bibliographies (*may also be secondary*)
- chronologies
- dictionaries and encyclopedias (*may also be secondary*)
- directories
- guidebooks, manuals etc
- handbooks and data compilations (*may also be secondary*)
- indexing and abstracting tools used to locate primary & secondary sources (may also be secondary)
- textbooks (*may also be secondary*)

## Examples of Primary, Secondary & Tertiary Sources

- **Discipline**
- **Primary Source**
- **Secondary Source**
- **Tertiary Source**
- **Art**
- Original artwork
- Article critiquing the piece of art
- Art Index
- **Engineering**
- Patent
- Derwent Patents index
- Guide to using patent literature
- **History**
- Explorer's Diary
- Book about exploration
- APAIS

- **Literature**
- Poem
- Treatise on a particular genre of poetry
- MLA
- **Psychology**
- Notes taken by a clinical psychologist
- Monograph on the condition
- Dictionary of psychology
- **Science**
- Journal article reporting original coral research
- Biological Abstracts

- Review of recent coral research
- Biological Abstracts
- **Theatre**
- Videotape of a performance
- Biography of a playwright
- Chronology of the play

For further information see Literature of the Sciences and Yale University Library - Primary Sources Research

Please contact Helen Hooper if you have any comments, suggestions or additions.

If this information is inadequate, incorrect, or can be improved in any way, *please let us know*

## FOOTNOTE 2: http://www.census.gov/epcd/www/naics.html

### North American Industry Classification System (NAICS)

The North American Industry Classification System (NAICS) has replaced the U.S. Standard Industrial Classification (SIC) system. NAICS will reshape the way we view our changing economy.

NAICS was developed jointly by the U.S., Canada, and Mexico to provide new comparability in statistics about business activity across North America.

NAICS 2007 includes revisions to NAICS 2002 across several sectors. The most significant revisions are in the Information Sector, particularly within the Telecommunications area.

The North American Product Classification System (NAPCS) is now available for products of service industries (sectors 51-81). (NAPCS will focus on manufacturing products at a later date; for existing census codes, see the Numerical List.)
The printed 2007 NAICS Manual is now available. See below.

The official 2007 US NAICS Manual North American Industry Classification System--United States, 2007 includes definitions for each industry, tables showing correspondence between 2007 NAICS and 2002 NAICS for codes that changed, and a comprehensive index--features also available on this web site. To order the 1400-page 2007 Manual, in print, call NTIS at (800) 553-6847 or (703) 605-6000, or check the NTIS web site. The 2002 Manual, showing correspondence between 2002 NAICS and 1997 NAICS, and the 1997 Manual, showing correspondence between 1997 NAICS and 1987 SIC, are also available.

The following 2007 NAICS files are currently available for downloading in spreadsheet form: 2007 NAICS codes--2- through 6-digit; 2007 NAICS codes--6-digit only; and correspondence table for those industries that changed: 2007 NAICS to 2002 NAICS and 2002 NAICS to 2007 NAICS. A revised NAICS search incorporating the 2007 NAICS codes will be available in the near future.

Also available at this site are lists of 2002 NAICS codes (with links to definitions), 1997 NAICS codes, tables showing correspondence between NAICS 97 and SIC, tables showing

correspondence between NAICS 97 and NAICS 02, and other files for downloading.
A summary of NAICS supporting documents cites Federal Register Notices, issues papers, and other reports about NAICS.

NAICS was developed in cooperation with the US Economic Classification Policy Committee, Statistics Canada, and Mexico's Instituto Nacional de Estadistica, Geografia e Informatica.

**FOOTNOTE 3:** http://www2.standardandpoors.com/portal/site/sp/en/us/page.topic/indices_gics/2,3,1,7,0,0,0,0,0,0,0,0,0,0,0,0,0,0.html

Standard & Poor's and MSCI Barra jointly developed the Global Industry Classification Standard (GICS®) which establishes a common, global standard of industry classifications for companies worldwide.

GICS® Map Effective August 29, 2008
GICS® Map Effective April 28, 2006

English
Chinese
French
German
Italian
Japanese
Korean
Russian
Spanish

GICS Changes' Impact on S&P Indices - 2006 (XLS)

Related Articles

Standard & Poor's and MSCI Barra Announce Revisions to the Global Industry Classification Standard (GICS®)(PDF)
Standard & Poor's and MSCI Barra Consultation Paper on Potential Changes to the Global Industry Classification Standard (GICS®) Structure(PDF)

MSCI BARRA AND STANDARD & POOR'S TO LEAVE THE GLOBAL INDUSTRY CLASSIFICATION STANDARD (GICS®) STRUCTURE UNCHANGED IN 2007 (PDF)

S&P and MSCI BARRA Announce Revisions to the Global Industry Classification Standard (GICS®) (PDF)

S&P Finalizes Transition of S&P/Citigroup Indices to the Global Industry Classification Standard (GICS) (PDF)

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100

Learn More
Frequently Asked Questions About GICS® (PDF)
Understanding Sectors Factsheet(PDF)
S&P/Citigroup GICS® Factsheet® (PDF)
GICS® Sector Definitions (effective April 30, 2005) (PDF)
GICS® Codes for S&P 500 (XLS)

**FOOTNOTE 4:** he Emerging Markets Index is a float-adjusted market capitalization index. As of May 2005, it consisted of indices in 26 emerging economies: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey and Venezuela (http://www.investopedia.com/terms/e/emergingmarketsindex.asp).

An index created by Morgan Stanley Capital International (MSCI) that is designed to measure equity market performance in global emerging markets.

The Emerging Markets Index is a float-adjusted market capitalization index. As of May 2005, it consisted of indices in 26 emerging economies: Argentina, Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Israel, Jordan, Korea, Malaysia, Mexico, Morocco, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, Turkey and Venezuela.

Emerging markets are considered relatively risky because they carry additional political, economic and currency risks. They certainly aren't for those who value safety and security above all else. An investor in emerging markets should be willing to accept volatile returns - there is a chance for large profit at the risk of large losses.

An upside to emerging markets is that their performance is generally less correlated with developed markets. As such, they can play a role in diversifying a portfolio (and thus reducing overall risk).

Country Risk
Diversification
Emerging Market Economy
Emerging Market Fund
Index
Market Capitalization
Morgan Stanley Capital International - MSCI
Political Risk

**FOOTNOTE 5:** http://www.library.hbs.edu/guides/industry_research/index_print.html.

**Global Industry Classification Standard (GICS)**
Developed by Morgan Stanley Capital International (MSCI) and Standard & Poor's (S&P). Designed for financial community's need for standard industry definitions. The GICS structure consists of 10 sectors, 24 industry groups, 62 industries, and 132 sub-industries. Used in **Compustat**

**FOOTNOTE 6:** Michael E. Porter is a leading authority on competitive strategy, the competitiveness and economic development of nations, states, and regions, and the application of competitive principles to social problems such as health care, the environment, and corporate responsibility [http://drfd.hbs.edu/fit/public/facultyInfo.do?facInfo=bio&facEmId=mporter&loc=extn].

Michael E. Porter
**Bishop William Lawrence University Professor**

Biography

Michael E. Porter is a leading authority on competitive strategy, the competitiveness and economic development of nations, states, and regions, and the application of competitive principles to social problems such as health care, the environment, and corporate responsibility.

He is the Bishop William Lawrence University Professor, based at Harvard Business School. A University professorship is the highest professional recognition that can be awarded to a Harvard faculty member. In 2001, Harvard Business School and Harvard University jointly created the Institute for Strategy and Competitiveness, dedicated to furthering Professor Porter's work.

Professor Porter is generally recognized as the father of the modern strategy field, as has been identified in a variety of rankings and surveys as the world's most influential thinker on management and competitiveness.

He is the author of 17 books and over 125 articles. He received a B.S.E. with high honors in aerospace and mechanical engineering from Princeton University in 1969, where he was elected to Phi Beta Kappa and Tau Beta Pi. He received an M.B.A. with high distinction in 1971 from the Harvard Business School, where he was a George F. Baker Scholar, and a Ph.D. in Business Economics from Harvard University in 1973.

Teaching

Professor Porter's ideas are the foundation for courses on strategy and competitiveness, and his work is taught at virtually every business school in the world.

At Harvard, Professor Porter's course, *Microeconomics of Competitiveness*, is a graduate course open to students from across the university. It is also taught in

partnership with more than 80 other universities from every continent using curriculum, video content and instructor support developed at Harvard.

Professor Porter developed and chairs the New CEO Workshop, a Harvard Business School program for newly appointed CEOs of the world's largest and more complex corporations. Held twice each year by invitation only, the workshop focuses on the challenges facing new CEOs in assuming leadership. His *Harvard Business Review* article with Jay Lorsch and Nitin Nohria, 'Seven Surprises for New CEOs' (October 2004), describes some of the learning from this ongoing body of work.

Professor Porter speaks widely on strategy, competitiveness, health care delivery, related subjects to business, government, non-profit, and philanthropic leaders.

Research

**Strategy**

Professor Porter's core field is competitive strategy, which remains a major focus of his research. His book, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, is in its 63rd printing and has been translated into 19 languages. His second major strategy book, *Competitive Advantage: Creating and Sustaining Superior Performance*, was published in 1985 and is in its 38th printing. His book *On Competition* (1998) includes a series of articles on strategy and competition, including the award-winning *Harvard Business Review* article 'What is Strategy?', published in 1996. An updated version of his article, 'The Five Competitive Forces That Shape Strategy,' was published in early 2008. Professor Porter's next major book on strategy is in process.

**Competitiveness of Nations and Regions**

Professor Porter's 1990 book, *The Competitive Advantage of Nations*, presents a new theory of how nations and regions compete and their sources of economic prosperity. Motivated by his appointment by President Ronald Reagan to the President's Commission on Industrial Competitiveness, the book has guided economic policy in countless nations and regions. Subsequent articles have expanded on the concept of clusters (geographic concentrations of related industries that occur in particular fields) and other aspects of the theory.

*National Competitiveness.* Professor Porter has published books about national competitiveness on New Zealand, Canada, Sweden, Switzerland, and Japan. His book *Can Japan Compete?* (2000) challenged long-held views about the Japanese economic miracle.

Professor Porter chairs the *Global Competitiveness Report*, an annual ranking of the competitiveness and growth prospects of more than 120 countries published by the World Economic Forum.

*Clusters*. Professor Porter's ideas on clusters, first introduced in 1990, have given rise to a large body of theory and practice throughout the world. Cluster-based economic development thinking has resulted in many hundreds of public-private cluster initiatives in virtually every country. The article "Clusters and Competition: New Agendas for Companies, Governments, and Institutions" and *On Competition* (1998) provide a summary.

*Regional Competitiveness*. Professor Porter extended his work on competitiveness to states, provinces, and other sub-national regions. He led the Clusters of Innovation project which examined five major U.S. regions developing new theory and methodologies. He created the Cluster Mapping Project at Harvard, which provides rich data on the economic geography of U.S. regions and clusters on a special web site. Professor Porter's methodology is the basis for comprehensive new data on the economic geography of the 27 countries of the European Union. The article 'The Economic Performance of Regions' (2003) summarizes some of the important findings from this data as does a new paper, 'Convergence, Clusters and Economic Performance' (2006), with Mercedes Delgado and Scott Stern.

*Innovation*. Professor Porter is co-author (with Professor Scott Stern and others) of a body of work on the sources of innovation in national and regional economies, including *The New Challenge to America's Prosperity: Findings from the Innovation Index* (1999), 'The Determinants of National Innovative Capacity' (2000), and 'Measuring the 'Ideas' Production Function: Evidence from International Patent Output' (2000).

**Competition and Society**

Professor Porter's third major body of work has addressed the relationship between competition and society.

*Economically Distressed Communities.*. Professor Porter offered a new theory of urban economic development, beginning with the *Harvard Business Review* article 'The Competitive Advantage of the Inner City'. In 1994, he founded The Initiative for a Competitive Inner City (ICIC), a non-profit, private-sector organization to catalyze inner-city business development across the country. Professor Porter is Chairman of the ICIC, a national organization that works in cities across America. Related work by Professor Porter has tackled economic development in rural areas.

*The Natural Environment*. Professor Porter introduced a controversial theory that argued that environmental progress and competitiveness were not inconsistent but

complementary, put forth in his *Scientific American* essay, 'America's Green Strategy', and his article 'Toward a New Conception of the Environment-Competitiveness Relationship' (1995). The "Porter Hypothesis" has been the subject of more than 100 articles and has spawned a rich literature. The theory is now widely accepted and is guiding corporate practice and thinking about regulation.

*Philanthropy and Corporate Social Responsibility*. Professor Porter has devoted growing attention to philanthropy and the role of corporations in society. His *Harvard Business Review* article with Mark Kramer, 'Philanthropy's New Agenda: Creating Value' (1999), introduced a new framework for developing strategy in foundations and other philanthropic organizations.

His *Harvard Business Review* article, 'The Competitive Advantage of Corporate Philanthropy' (2002), focused on how corporations can create more social benefit in their philanthropy. His *Harvard Business Review* article with Mark Kramer, 'Strategy and Society: The Link Between Competitive Advantage and Corporate Social Responsibility' (2006), tackles the strategic underpinnings of corporate social responsibility.

With Mark Kramer, Professor Porter co-founded the Center for Effective Philanthropy, a non-profit organization dedicated to creating concepts and measurement tools to improve foundation performance. He also co-founded FSG-Social Impact Advisors, an international non-profit firm that provides advice and innovative ideas about social strategy to foundations, corporations, and social service organizations.

**Health Care Delivery**

Since 2001, Professor Porter has devoted considerable attention to competition in the health care system, with a focus on improving health care delivery. His work with Professor Elizabeth Teisberg, including the book *Redefining Health Care: Creating Value-Based Competition on Results* (Harvard Business School Press, 2006), is influencing thinking and practice not only in the United States but numerous other countries. Curriculum growing out of this research is being taught at Harvard and elsewhere.

Advisor and Civic Organizations

Professor Porter has served as a strategy advisor to top management in numerous leading U.S. and international companies, among them Caterpillar, DuPont, Procter & Gamble, Royal Dutch Shell, Scotts Miracle-Gro, SYSCO, and Taiwan Semiconductor Manufacturing Company.

Professor Porter currently serves on the board of directors of two public companies, Thermo Fisher Scientific Corporation and Parametric Technology Corporation.

Professor Porter serves as senior strategy advisor to the Boston Red Sox, a major league baseball team. He has advised numerous educational and community organizations on strategy.

Professor Porter is actively involved in assisting governments in the United States and abroad. He plays an active role in U.S. economic policy with the Executive Branch, Congress, and international organizations. Professor Porter is a founding member and member of the Executive Committee of the Council on Competitiveness, America's leading private-sector competitiveness organization made up of chief executive officers of major corporations, unions, and universities. He also chairs the selection committee for the annual Corporate Stewardship Award of the U.S. Secretary of Commerce.

Professor Porter advises national leaders in numerous countries on competitiveness including Armenia, Colombia, Ireland, Nicaragua, Russia, Rwanda, Saudi Arabia, Singapore, Taiwan, and the United Kingdom. He has personally led major studies of economic strategy for the governments of such countries as Canada, India, Kazakhstan, Libya, New Zealand, Portugal, and Thailand.

Professor Porter's thinking about economic development for groups of neighboring countries has resulted in a long-term initiative within Central America, including the formation of the Latin American Center for Competitiveness and Sustainable Development (CLACDS), a permanent institution based in Costa Rica.

At the state and local level, Professor Porter has worked extensively in his home state of Massachusetts and numerous others. He has been honored by governments for his work in Basque Country, Catalonia, Connecticut, and South Carolina. He chaired the Governor's Council on Economic Growth and Technology in Massachusetts during the period when Massachusetts made dramatic improvements in competitiveness.

Honors and Awards

Professor Porter has been widely recognized for his work. Some of these honors (in chronological order) include Harvard's David A. Wells Prize in Economics (1973) for his research in industrial organization. He received the Graham and Dodd Award of the Financial Analysts Federation in 1980. His book *Competitive Advantage* won the George R. Terry Book Award of the Academy of Management in 1985 as the outstanding contribution to management thought.

Professor Porter was elected a Fellow of the International Academy of Management in 1985, a Fellow of the Academy of Management in 1988, and a Fellow of the Royal Swedish Academy of Engineering Sciences in 1991. In 1991, he received the Charles Coolidge Parlin Award for outstanding contribution to the field of marketing and

strategy, given by the American Marketing Association. Professor Porter was honored by the Massachusetts State Legislature in 1991 for his work on Massachusetts competitiveness.

In 1993, Professor Porter was named the Richard D. Irwin Outstanding Educator in Business Policy and Strategy by the Academy of Management.

He was the 1997 recipient of the Adam Smith Award of the National Association of Business Economists, given in recognition of his exceptional contributions to the business economics profession. In 1998, he received the International Academy of Management's first-ever Distinguished Award for Contribution to the Field of Management.

In 2001, the annual Porter Prize, akin to the Deming Prize, was established in Japan in his name to recognize Japan's leading companies in terms of strategy.

In 2003, the Academy of Management recognized Professor Porter with its highest award, for scholarly contributions to management.

In 2005, Professor Porter became an Honorary Fellow of the Royal Society of Edinburgh. That year, he was awarded the John Kenneth Galbraith Medal (presented by the American Agricultural Economics Association. That year, he was also honored by the South Carolina legislature for his efforts in assisting and promoting economic development in that state.

In 2007, Professor Porter's book, *Redefining Health Care*, was awarded the James A. Hamilton Award as the outstanding health care book of the year.

Professor Porter has received six McKinsey Awards for the best *Harvard Business Review* article of the year, including an unprecedented four first-place awards.

Professor Porter has received honorary doctorates from the Stockholm School of Economics; Erasmus University (the Netherlands); HEC (France); Universidada Tecnica de Lisboa (Portugal); Adolfo Ibanez University (Chile); INCAE (Central America); The University of Deusto (Basque Country); The University of Iceland; Universidad de los Andes (Colombia); HHL-Leipzig Graduate School of Management (Germany); Universidad San Martin de Porres (Peru); Johnson and Wales University (United States); and Mt. Ida College (United States).

Professor Porter has been awarded national honors including the Creu de St. Jordi (Cross of St. George) from Catalonia (Spain) and the Jose Dolores Estrada Order of Merit, the highest civilian honor awarded by the Government of Nicaragua.

Personal History

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100

Professor Porter was born in Ann Arbor, Michigan, and lived and traveled throughout the world as the son of a career Army officer. He was an all-state high school football and baseball player. At Princeton, he played intercollegiate golf and was New England champion. He was named to the 1968 NCAA Golf All-American Team. After graduating from college, Professor Porter served through the rank of captain in the U.S. Army Reserve. He maintains a long-time interest in the esthetics and business of music and art, having worked on the problems of strategy with arts organizations and aspiring musicians. He serves as a trustee of Buckingham, Browne & Nichols, an independent school located in Cambridge, Massachusetts. Professor Porter resides in Brookline, Massachusetts.

2/08

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**FOOTNOTE 7:** The NBER's Program on Industrial Organization (IO) (http://www.nber.org/programs/io/io.html) celebrates its fifteenth anniversary this year. Researchers in the IO program explore a wide range of topics within the field. Rather than attempting to skim the full scope of program activity, this report highlights work in three broad areas: regulation and antitrust policy; pricing behavior by firms; and auctions markets.(2) Discussion of the substantial body of research on technology and technical change is deferred to reports of the Productivity Program and the NBER Project on Industrial Technology and Productivity. Those interested in learning more about the IO program may visit the NBER website for links to the full set of Industrial Organization Working Papers: http://www.nber.org/programs/io/io.html

**The NBER Industrial Organization Program**

conducts empirical studies of firm behavior and government regulation. Members of the program also examine competition and pricing behavior in specific industries.

- **List of Members**
- **Program Working Papers**, in chronological order

**PROGRAM REPORT**

**Nancy L. Rose, Program Director**

[The following Program Report appeared in the Summer 2006 issue of the *NBER Reporter*.]

**Industrial Organization**

Nancy L. Rose(1)

The NBER's Program on Industrial Organization (IO) celebrates its fifteenth anniversary this year. Researchers in the IO program explore a wide range of topics within the field. Rather than attempting to skim the full scope of program activity, this report highlights work in three broad areas: regulation and antitrust policy; pricing behavior by firms; and auctions markets.(2) Discussion of the substantial body of research on technology and technical change is deferred to reports of the Productivity Program and the NBER Project on Industrial Technology and Productivity. Those interested in learning more about the IO program may visit the NBER website for links to the full set of Industrial Organization Working Papers: http://www.nber.org/programs/io/io.html

**Regulatory and Antitrust Policy**

When markets deviate from competitive ideals, assessing the desirability of government intervention requires a careful assessment of the costs of market failures relative to the benefits of imperfect regulation. The recognition that even imperfect markets may be preferable to regulated outcomes accompanied a dramatic transformation in the nature and extent of government intervention across a broad range of markets over the past thirty years. Many industries long subject to price and entry regulation in the United States -- among them airlines, trucking, railroads, and banking -- were deregulated. Telecommunications and electric utilities have been vertically disintegrated and structurally competitive segments were opened to market-based outcomes. Privatization of state-owned enterprises outside the United States has substantially increased reliance on market outcomes in many sectors, although regulators in some cases have replaced government managers in providing oversight. Where government intervention ha s been maintained, various forms of incentive-based regulation increasingly have replaced state ownership or traditional cost-of-service rate determination.

IO program members are among the leading scholars of antitrust and regulatory policy, and many have been directly involved in the design or implementation of reforms through their government service, advice to regulatory agencies, or consulting to affected firms. In the face of continuing policy debates over regulatory reform, highlighted more than a decade ago by Paul Joskow and Roger Noll in the NBER's 1994 *American Economic Policy in the 1980s*, the NBER recently sponsored a research project designed to leverage this expertise. Project participants were asked to identify key issues in economic regulation, assess the impact of regulatory reforms across a variety of industries, and evaluate significant contemporary concerns about these reforms. Two dozen scholars assembled for a September 2005 conference in Cambridge to discuss the results of this project, to be assembled in an NBER volume on "Economic Regulation and Its Reform: What Have We Learned?" This project complements a substantial body of primary research by NBER associates on regulatory and antitrust policy. A selection of research from the conference and from NBER working papers is described below.

## Economic Regulation and Its Reform

*Electricity Restructuring: Competition and Incentive Regulation*

NBER researchers continue in the vanguard of research, market design, and implementation of electricity restructuring. Much of the empirical work to date has focused on restructured generation markets, in which prices generally are determined through a competitive bidding process. Frank Wolak[3] describes the evolutionary nature of the restructuring process, emphasizing the tension between an imperfectly competitive market and an imperfect regulatory process in providing incentives for least-cost supply at various stages of the production process. In one of

the first empirical analyses of restructuring supply-side benefits (11001), the potential for these incentives to reduce costs is highlighted: Kira Fabrizio, Catherine Wolfram, and I show that restructuring is associated with increased productivity, documenting generating-plant efficiency gains in the use of labor and materials input from replacing a regulated monopoly with market competition. As Wolak points out, though, the technical characteristics of electricity supply and demand suggest that market power may be of particular concern, limiting the benefits of restructuring. Joskow (8442) discusses the role of market power and other contributors to the 2000-1 California electricity crisis; Ali Hortacsu and Steven Puller (11123) measure efficiency losses from strategic bidding in the Texas ERCOT market; and Dae-Wook Kim and Chris Knittel (10895) compare direct measures of markups to those inferred from oligopoly models of market power in California generation markets. Wolak also describes market design and regulatory policies that limit the ability of suppliers to exercise unilateral market power -- such as forward contracting, horizontal divestitures, demand-side participation, and local market power mitigation -- and uses examples from worldwide wholesale electricity markets to illustrate the importance of effectively addressing each aspect of the market design process to ensure the maximum benefits of electricity restructuring.

While early empirical electricity research focused predominantly on generation markets, researchers increasingly have turned their attention to retail markets and demand-side policy. Peter Reiss and Matthew White (8687, 9986) use data from San Diego households to measure consumer responsiveness to changing electricity prices and conservation programs enacted during the California electricity crisis. They argue that consumers may be more responsive to price fluctuations than previously thought. Severin Borenstein and Stephen Holland (9922) suggest that substantial efficiency gains could be obtained from shifting even modest shares of relatively price-insensitive customers from fixed retail electricity prices to those that reflect time-varying wholesale electricity prices. Borenstein (11594) provides insight into continued res istance to real-time pricing, highlighting substantial distributional effects of real-time prices across heterogeneous industrial and commercial customers that may make it difficult to gain political support without some system to compensation losers.

For services such as transmission and distribution, which typically remain subject to regulation even in restructured markets, innovations have shifted the focus from cost-based price setting toward incentive mechanisms. Joskow[4] provides a comprehensive review of the theory and complexities involved in applying incentive-based regulation. He then discusses applications of incentive mechanisms to the regulation of prices and service quality for "unbundled" electricity transmission and distribution networks. Further, he assesses the evidence on the performance of incentive regulation for electric distribution and transmission networks and describes challenges for future policy and research.

Among those challenges are determining the role of competition in electricity retailing and transmission. Joskow and Jean Tirole (9534) analyze the likely performance of competitive merchant transmission markets, and conclude that this model is likely to yield substantial investment inefficiencies. While their prognosis for retail electricity competition is more optimistic (10473), they note a variety of challenges and efficiency limitations of competitive outcomes. In their work on "Reliability and Competitive Electricity Markets" (10472), they analyze the complexity involved in integrating economists' approach to market design with engineering system design for reliability across the entire electricity network. Finally, they highlight the implications for system investment, operation, and reliability of interactions among competitive markets, operational constraints, and regulatory and administrative practices.

*Telecommunications*

The telecommunications sector similarly has undergone a dramatic transformation over the past quarter century. Although telecommunications regulators adopted various incentive-based policies early, "forward-looking" cost-based regulation still plays a prominent role in setting prices for unbundled network elements (UNEs) that must be leased by local telephone companies to their competitors. As noted by Robert Pindyck (10287, 11225), the typical pricing formulas used to set UNE lease rates induce substantial investment and entry inefficiencies by failing to account properly for the substantial sunk costs of telecomm investments.[5] Jerry Hausman and Gregory Sidak[6] compare the outcomes of regulatory approaches in the United States, the United Kingdom, and New Zealand. They conclude that in both the United States and the United Kingdom, unbundling may have caused an increase in competition if one measures competition by market share of entrants, at the cost of adverse investment effects by both incumbents and new entrants. In the last section of their paper, they argue that emerging facilities-based competition should allow the end of telecomm price regulation and the regulatory burden that it creates for both consumers and the economy. If the nature of local exchange competition during the 1990s is a guide to the future, then Shane Greenstein and Michael Mazzeo's (9761) research suggests that we may see increasing product differentiation as a result of local competition.

*Cable Television*

Greg Crawford's[7] analysis of the cable television industry highlights the impact of economic regulation on product quality and innovation. Regulation in this industry has varied greatly over time, as federal legislation has deregulated, re-regulated, and deregulated consumer cable prices. More recently, penetration by Digital Broadcast Satellites raises questions about the need for regulation to constrain cable prices (see research by Austan Goolsbee and Amil Petrin on welfare gains from DBS

introduction, 8317). Crawford analyzes the interplay of price regulation and firm quality choices, with attention to the implications of satellite competition for performance in cable television markets. His work highlights ongoing concern over horizontal concentration and vertical integration in the programming market, and bundling by both cable systems and programmers, the latter being the subject of current policy debate at the Federal Communications Commission.

*Airline Deregulation*

In general, the empirical evidence on deregulation of structurally competitive industries suggests considerable gains from removal of price and entry regulation, although the transition from regulated to competitive markets may be longer and more costly than academics or policymakers originally envisioned. Borenstein and I[8] describe the significant consumer benefits from reduced fares and increased flight frequencies and from nonstop service subsequent to airline deregulation, while acknowledging the industry's considerable financial volatility. We argue that market power concerns have diminished as growth by low-cost carriers now challenges legacy airlines in virtually all parts of the country. Recent research by Goolsbee and Chad Syverson suggests that even the threat of entry by carriers such as Southwest may reduce incumbent prices (11072). This surge in competition, combined with adverse demand shocks, high fuel prices, and high labor costs, has contributed to current financial distress among many legacy airlines, though. Financial distress and accompanying bankruptcies have been costly for shareholders, high-wage workers, and the Pension Benefit Guaranty Corporation, although many costs and dislocations may be transitional. For example, Borenstein and Rose (9636) show that schedule disruptions associated with airline bankruptcies are largely transitory; where they are more permanent, they appear to be modest relative to background fluctuations in flights and destinations served, and to be isolated to medium-sized airports. Overall airline investment and consumer benefits continue to be substantial. The greater long-run challenge may be the performance of government-controlled airports, air traffic control, and security infrastructure, which have not in general kept pace with the growth and changes in the industry.

*Pharmaceutical Regulation*

Pharmaceutical regulation has long generated concern over its effect on innovation incentives and product launch delays. Patricia Danzon and Eric Keuffel[9] tackle these and other issues in their analysis of pharmaceutical safety, price, and marketing regulations on a variety of industry performance measures. They note that regulatory reforms such as the adoption of user fees, fast track, and priority review may have reduced review-induced delays, especially for priority drugs. For example, Ernst Berndt et al. (10822) finds that implementation of performance goals and user fees for FDA drug applications substantially reduced approval lags -- by an average

of roughly six months. They estimate a net savings of more than 125,000 life-years from these reforms.

Discouragement of innovation also can be a significant hidden cost of price regulation. Price controls present in many countries may reduce the price of existing pharmaceuticals, but also appear to discourage the development and diffusion of innovative new treatments (see analyses by Danzon, Richard Wang, and Liang Wang (9874); Danzon and Jonathan Ketcham (10007); and the late Jean Lanjouw (11321)). In their work on Medicaid prescription drug purchasing, Mark Duggan and Fiona Scott Morton (10930) highlight another indirect effect of price regulation: government rules that base Medicaid purchase price on the average price of that drug across private-sector purchasers increase equilibrium drug prices for non-Medicaid purchasers, and increase a firm's incentives to introduce new versions of a drug at higher prices.

*Financial Services*

Randall Kroszner and Phillip Strahan[10] analyze the evolution of banking regulation of prices (interest rates), entry, capital, and investment decisions from the 1930s to the last part of the twentieth century. They note that while industry adaptations to constraints partially reduced the costs of regulatory distortions, banking efficiency improved following the removal of most price and entry controls, generating substantial real benefits for the economy as a whole. Patrick Bolton et al. (10571) show that opening the banking sector to price and product-offering competition also may improve information provision and consumer-product matching, given the superior information that financial services sellers may have about product suitability for buyers of those services.

Eric Zitzewitz[11] analyzes the implications of such asymmetric information for the regulation of non-banking financial services firms. He argues that agency conflicts created by information asymmetries and consumer behavioral biases may impede market efficiency. For example, asset management and financial advisor firms may have incentives to discriminate according to customer sophistication or search ability, offering low-price, high-quality products to sophisticated clients and high-price, low-quality products to the less sophisticated. Ali Hortacsu and Syverson (9728) provide some evidence of this phenomenon in research on product differentiation and search costs in the mutual fund industry. Zitzewitz too discusses the implications of these factors for regulatory and antitrust policy in this sector, with particular attention to recent interventions by the New York Attorney General and the SEC.

*Antitrust Policy*

In regulated industries, firms may be subject to overlapping jurisdiction by both regulators and antitrust authorities. Dennis Carlton and Randal Picker[12] analyze the tension that this produces, describing the historical origin of antitrust and regulation policy and the ongoing struggles to define the appropriate mechanism and substantive scope for regulating competition. They note that debates over the role of antitrust and regulation continue with particular prominence in today's network industries, whether telecommunications, transportation, or electricity. Moreover, core issues such as interconnection and mandatory access have increased in salience as reform-induced restructuring has led to vertical disintegration of firms and increased competition with incumbents in many industry segments, while the Supreme Court's decision in *Trinko* leaves open substantial questions about how these relationships will be governed.

For most sectors of the economy, interactions among firms are governed by court interpretations of antitrust policy rather than by economic regulatory agency decisions. NBER researchers have explored a variety of aspects of antitrust policy, from theoretical and empirical analyses of merger policy to consideration of vertical restraints. The appropriate role and application of antitrust policy in innovative sectors has attracted particular attention, both as a matter of principle and in the context of high-profile cases such as U.S. v. Microsoft.[13] In these sectors, the tension between encouraging competition through entry and maintaining profit incentives for dynamic growth and efficiency is particularly acute. Ilya Segal and Michael Whinston (11525) focus on this tension in research that analyzes a number of specific policies, highlighting those that benefit both entry and innovation. Carlton and Robert Gertner (8976) argue that dynamic efficiency requires coordination of antitrust policy with intellectual property laws in an attempt to resolve tensions created by the tendency for network industries to evolve toward closed systems. Michael Katz and Howard Shelanski (10710) argue that traditional merger analysis, based on static welfare analyses, may miss important dynamic efficiency implications of mergers in highly innovative sectors. Carlton (11645) emphasizes the importance of dynamic barrier-to-entry analysis as one component of this.[14]

**Pricing Behavior in Oligopoly Markets**

The behavior of firms in oligopoly markets is one of the mainstays of IO research. NBER researchers have made considerable progress in better understanding firms' pricing decisions, particularly with reference to price dispersion. Although competitive models tend to assume that consumers are perfectly informed about each firm's single price, many markets deviate substantially from this description. The ability to price discriminate -- charging different prices for a product either across firms or to different customers of the same firm -- may enable firms to extract greater consumer value from a transaction or to expand the set of customers they serve. This phenomenon appears ubiquitous in the economy.

Consumer search costs may be an important source of sustained price variability in a market. For example, cash prices for a given prescription drug vary widely across pharmacies within a particular geographic market. The magnitude of price dispersion is correlated with attributes that appear related to the costs and benefits of consumer search, for example, greater price variation for drugs prescribed for one-time use to treat an acute condition, relative to those prescribed for ongoing purchase as maintenance therapies. Alan Sorensen (8548) uses information on retail price dispersion and prescription attributes to analyze the distribution of consumer search costs for these products. His estimated model of consumer pharmacy choice suggests that search intensities in this market are relatively low -- implying that, on average, only 5 to 10 percent of prescriptions are comparison-price shopped.

One way to increase search intensity is to lower its cost. Internet retailing often has been cited as intensely price competitive in large part because of easy consumer search for low-price vendors. Joel Waldfogel and Lu Chen (9942) argue that this reduces the price advantage of brand-name retailers. They find that consumer exposure to price comparison sites such as DealTime.com reduces Amazon purchase shares for those consumers, and that reductions are roughly twice as large for sites that include retailer reliability information (which may substitute for retailer brand reputation) in addition to item price. Goolsbee and Judith Chevalier (9085) develop a method of estimating price elasticities for online booksellers using publicly available data on Amazon and Barnes & Noble.com, and conclude that consumers are quite sensitive to prices, particularly at Barnes & Noble.com. Glenn Ellison and Sara Fisher Ellis on (10570) show that Internet retailers respond strategically to the increased pricing pressure imposed by these price comparison sites, though. Their analysis of the online computer components market demonstrates that retailers engage in a variety of practices to mitigate the extreme price-sensitivity that price comparison sites may induce, allowing firms to mark-up prices at least enough to cover fixed as well as marginal costs for efficient retailers. Glenn Ellison (9721) provides a theoretical model of one such practice, "add-on pricing" -- for example, advertising low prices for one good in the expectation of selling additional (or higher quality) products to consumers at a high price at the point of sale. His work shows that this practice can sustain softer price competition as a competitive equilibrium.

A rich body of research by Florian Zettelmeyer, Fiona Scott Morton, and Jorge Silva-Risso uses data on individual consumer automobile purchases to explore the interaction of retail auto pricing, consumer information, and Internet information and referral services. These researchers first document significant reductions in average automobile purchase price associated with using an Internet referral service (8667), on the order of 2.2 percent after controlling for selection effects in who uses the service. They then show that Internet referrals disproportionately benefit minority buyers, offsetting the average 2 percent price disadvantage these groups incur because of their personal costs of search or negotiation for purchases made through

traditional dealer channels (8668). In research that matches consumer survey and transactions data to explore the mechanism underlying these price effects, these researchers conclud e that increased transparency of dealer invoice costs combine with greater negotiating clout of the online referral service to reduce a customer's price by an average of 1.5 percent (11515). Consumer information appears to be particularly important in extracting value from auto price negotiations. For example, Megan Busse, Zettelmeyer, and Silva-Risso find that purchasers obtain 80 percent of the value of auto manufacturer promotions in the form of heavily promoted customer rebates, but only 35 percent of the value of promotions that are paid as dealer discounts (10887). This research agenda has provided unparalleled insights into pricing determinants in a significant consumer market, and generated important new findings for the role of the Internet in changing outcomes in conventional retail channels.

**Auction Markets**

While Internet retailing in general has attracted considerable attention and interest, the icon of Internet selling may well be eBay. Its popularity as a mechanism for matching buyers and sellers has spawned a rich economics literature as well as numerous competitors; much of this is described in Patrick Bajari and Ali Hortacsu's survey of Internet auctions research (10076). The seeming ubiquity of auctions, for goods ranging from fine art to Beanie Babies, and in settings that range from government procurement to pollution permits,[15] has prompted several NBER researchers to model the benefits of auctions over alternative market transaction mechanisms. Alexandre Ziegler and Edward Lazear (9795) analyze the choice between retail store-based and auction markets. They describe the relative benefits of each, and characterize the conditions that lead to more efficient market organizatio n through retail stores relative to auctions. Eduardo Engel, Ronald Fischer, and Alexander Galetovic (8869) analyze Demsetzian auctions for exclusive rights in settings that range from procurement to royalty contracts, and conclude that "competition for the field" through ex ante auctions welfare dominates duopoly competition whenever marginal revenue is decreasing in quantities sold. Bajari, Robert McMillan, and Steve Tadelis (9757) highlight limitations of auctions relative to negotiations in procurement settings, particularly those dominated by incomplete information. With Stephanie Houghton, Bajari and Tadelis estimate adaptation and renegotiation costs to procurement contracts awarded by auction mechanisms (12051).

As Susan Athey and Philip Haile point out (12126, p. 1), "auctions have provided a fruitful area for combining economic theory with econometric analysis to understand behavior and inform policy." Athey and Haile describe methodological innovations, many by NBER researchers, which have facilitated estimation of more realistic models and provided significant insights into auction market operation and

performance. A significant thrust of this work has been to allow the data more freedom to drive results by relaxing parametric and functional form assumptions. For example, Haile, Han Hong, and Matthew Shum (10105) develop nonparametric tests of one of the key valuation questions in auctions: are bidders' valuations generated by independent private values for the good, in which case bidders need not be concerned about the "winner's curse," or by common values, in which case bidders must optimally shade their bids know ing that winning means they had an excessively optimistic estimate of the good's true value. They apply this test to different types of U.S. Forest Service timber auctions, and find support for its ability to distinguish between settings in which common values are likely to be more or less significant.

Another approach to allaying concerns about constraints imposed by structural model estimates of auctions looks to experimental data. In this spirit, Bajari and Hortacsu (9889) use experimental data to calibrate the quality of structural estimation based on four alternative theoretical models of bidder behavior. Andreas Lange, John List, and Michael Price (10639) develop an innovative combination of field data and lab experimental data to evaluate the impact of secondary resale markets for timber on bidding behavior in timber auctions.

Improving the models and methods available to analyze auction markets can yield important economic insights into these markets, and can aid participants in developing appropriate bidding strategies. But an important policy goal is also to understand the performance of these markets. Mireia Jofre-Bonet and Martin Pesendorfer (8626) develop a method of estimating a dynamic model of behavior in repeated highway construction procurement auctions with firm-level capacity constraints, and then quantify efficiency losses that result in this setting. In many repeated auctions settings, the potential for collusion among bidders may also be a significant concern. Ken Hendricks, Rob Porter, and Guofu Tan (9836) develop a theory of collusion in affiliated private value and common value auction environments, and use their model to test for bidding rings in federal offshore oil and gas lease auctions. They show that the winner's curse in common value settings works against bid rigging for marginal tracts. Bajari and Fox (11671) analyze potential collusion in FCC spectrum auctions; Orley Ashenfelter and Kathryn Graddy (10795) provide a case study of price-fixing in auctions using the Sotheby's/ Christie's art auctions case, drawing out the lessons for auctions and competition policy from details of this case.

## Conclusion

This report of necessity focuses on a fraction of the IO research conducted by NBER scholars, although I hope it provides an indication of the breadth and depth of

contributions made in this area. Interested readers are encouraged to peruse the NBER website to access the entire body of scholarly work in this area.

*1. Rose directs the NBER's Program on Industrial Organization and is a Professor of Economics at MIT. In this article, the numbers in parentheses refer to NBER Working Papers.*

*2. NBER researchers also have been responsible for an extensive body of work on methodological advances in empirical industrial organization. Ariel Pakes (10154) provides an overview. Areas that have attracted considerable attention include hedonic modeling: see, for example, papers by Pakes (8715), James Heckman, Rosa Matzkin, and Lars Nesheim (9895), Lanier Benkard and Patrick Bajari (9980, 10278). Considerable work also has focused on estimation of dynamic games: for example, papers by Igal Hendel and Aviv Nevo (9048, 11307), Jaap Abring and Jeffrey Campbell (9712), Martin Pesendorfer and Philipp Schmidt-Dengler (9726), Bajari, Benkard, and Jon Levin (10450), Pakes, Michael Ostrovsky, and Steven Berry (10506), Adam Copeland and George Hall (11870), Gabriel Weintraub, Benkard, and Ben Van Roy (11900), and Guillermo Caruana and Liran Einav (11958).*

*3. F. Wolak, "Regulating Competition in Wholesale Electricity Supply," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*4. P. L. Joskow, "Incentive Regulation in Theory and Practice: Electricity Distribution and Transmission Networks," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*5. Pindyck also examines the implications of sunk costs for competition policy (11430).*

*6. J. Hausman and J.G. Sidak, "Telecommunications Regulation: Current Approaches with the End in Sight," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*7. G. Crawford, "Cable Television: Does Cable Need to be Regulated Any More?" NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*8. S. Borenstein and N. L. Rose, "Regulatory Reform in the Airline Industry," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*9. Danzon, P.M. and E. Keuffel, "Regulation of the Pharmaceutical Industry," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*10. R. Kroszner and P. Strahan, "Regulation and Deregulation of the U.S. Banking Industry: Causes, Consequences, and Implications for the Future," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

*11. E. Zitzewitz, "Financial Regulation in the Aftermath of the Bubble," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005*

*12. D. W. Carlton and R. Picker, "Antitrust and Regulation," NBER Conference on Economic Regulation and Its Reform: What Have We Learned? 2005.*

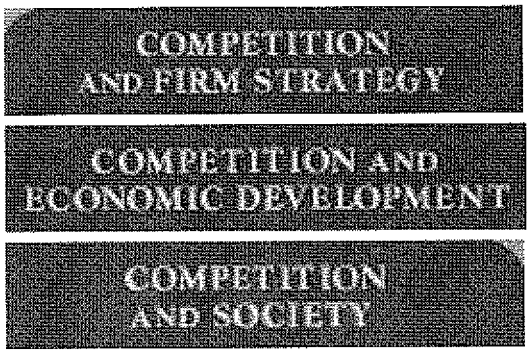
*13. David Evans, Albert Nichols, and Richard Schmalensee's analysis of the Microsoft case (11727) argues that the remedies imposed struck a reasonable balance among competing concerns.*

*14. See also antitrust analysis in more general settings; for example, Charles Calomiris and Thanavut Pornrojnangkool (11351) on anticompetitive effects of bank mergers in lending markets, Evans and Schmalensee (11603) on competition policy in markets with two-sided platforms, and Carlton and Michael Waldman (11407) on tying in durable goods markets.*

*15. See, for example, Orley Ashenfelter and Kathryn Graddy (8997) on art auctions, Bajari and Jeremy Fox (11671) on FCC spectrum auctions, and Luis Cabral and Hortacsu (NBER WP 10363) on reputation mechanisms in e-Bay auctions.*

## FOOTNOTE 8: http://www.isc.hbs.edu/

he Institute for Strategy and Competitiveness, led by Michael E. Porter, Bishop William Lawrence University Professor, studies competition and its implications for company strategy; the competitiveness of nations, regions and cities; and solutions to social problems. Based at Harvard Business School, the Institute is dedicated to extending the research pioneered by Professor Porter and disseminating it to scholars and practitioners on a global basis.




Competitive Strategy

Industry Structure
and Structural Change
Company and Industry
Financial Performance
Location, Internationalization,
and Global Strategy
Corporate Level Strategy
Strategy and the Internet
Strategy for Non-Profits
Competition in Health Care

The Porter Prize (Japan)

National Competitiveness
Clusters and Cluster Development
Competitiveness of States
and Regions

Strategy for Cross-National
Economic Areas
Innovation and Innovative Capacity
Economic Development in Inner Cities
Rural Economic Development
The Microeconomic Foundations
of Economic Development

## Affiliated Institutes

*HEALTH CARE*

Competition in Health Care
Global Health Delivery Project
Health Care Curriculum

*DISTRESSED COMMUNITIES*

Economic Development
in Inner Cities

Rural Economic Development

*SOCIAL CONCERNS*

Environmental Quality
and Competitiveness
Antitrust and Competition Policy

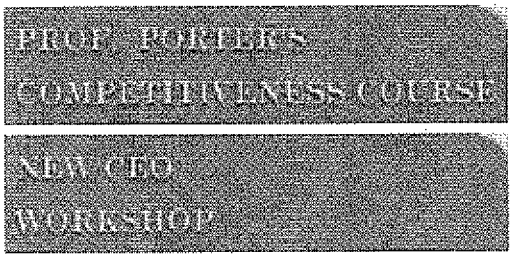
*PHILANTHROPY AND CORPORATE SOCIAL RESPONSIBILITY*

Strategy for Philanthropic Organizations
Corporate Philanthropy
Capitalism and Social Progress

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100




U.S. Cluster Mapping Project

International Cluster Competitiveness Project

Global Competitiveness Report
(World Economic Forum)

European Cluster Observatory
(CSC, Stockholm)

Canadian Cluster Data
(ICAP, Toronto)

Course Description

Affiliated Universities Teaching the Course

Video Excerpts from the Course

Detailed prospectus for universities interested in teaching the course

Information for prospective students at Harvard: pdf, video

MOC Network Site
*(for Harvard MOC students)*

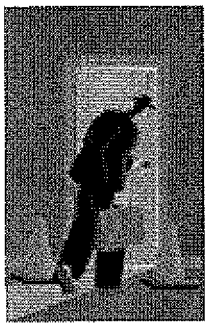
New CEO Workshop: Description

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

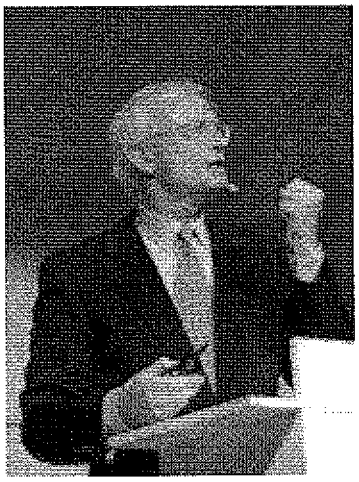
**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100

Seven Surprises for New CEOs:



October 2004
Harvard Business Review



**Clusters, Innovation, and Competitiveness**
**slides**, **video** (57 min)
EU Conference on Innovation and Clusters - Stockholm
January 22, 2008

Conference website

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

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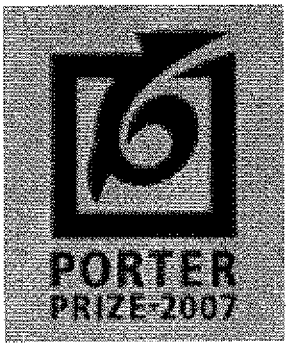
**ATTY.DKT:** 4803.100

Svenska Dagbladet: Politiker kan inte skapa kluster, hävdar klustrens egen "pappa"

Manager (Slovenia): Intervju, Michael Porter: Inovirajte, ne glede na krizo

Competitiveness as an Engine for Economic Growth: Implications for Saudi Arabia
Michael Porter
Global Competitiveness Forum
Riyadh, Saudi Arabia
January 21, 2008

Arab News: Raise Culture of Productivity, Says Expert




**2007 Porter Prize Winners**
Kaihara Corporation
Maruho Co., Ltd.
Ryohin Keikaku Co., Ltd.

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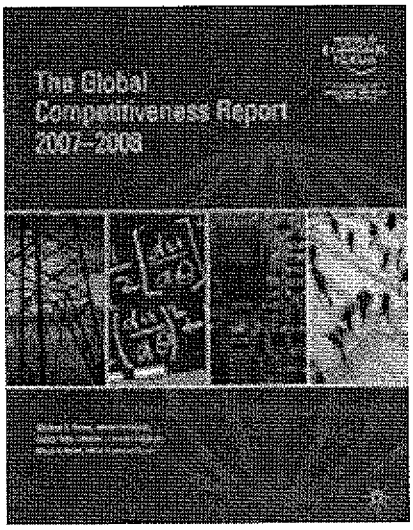


The Global Competitiveness Report 2007-2008

-- BCI chapter
-- Michael Porter video
-- press release
-- in the news
-- WEF website

HHL
Leipzig Graduate School of Management

**Leipzig Graduate School of Management confers honorary degree to Michael Porter**

Video tribute, Announcement

News: HHL ehrt Harvard Professor Porter

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**Davos 2008**

**Video: Corporate Global Citizenship in the 21st Century**
Session chaired by Michael Porter

Bloomberg: Porter Sees Material Slowing of U.S. Economy, Audio Text

Süddeutsche Zeitung: Christian Ketels interview, Nach Indien oder China?

## FOOTNOTE 9: http://www.isc.hbs.edu/firm-financperform.htm

**Company and Industry Financial Performance**

Profitability is the only reliable measure of the economic value of a company. Other metrics of performance mislead investors while producing bad corporate decisions. The Institute, in collaboration with Professor Anita McGahan at Boston University, has assembled a large body of data on the performance of all publicly traded business segments and companies in the United States over the 1981 to 1999 period. This data not only sheds light on the causes of company performance, but also provides benchmarks for practitioners to compare performance across companies and industries.

**Framework Publications**

**"What Do We Know About Variance in Accounting Profitability?"**

Anita M. McGahan and Michael E. Porter

*Management Science*

Volume 486, Number 7, July 2002

In this paper, we analyze the variance of accounting profitability among a broad cross-section of firms in the American economy from 1981 to 1994. The purpose of the analysis is to identify the importance of year, industry, corporate-parent, and business-specific effects on accounting profitability among operating businesses across sectors. The findings indicate that industry and corporate-parent effects are important and related to one another. As expected, business-specific effects, which arise from competitive positioning and other factors, have a large influence on performance. The analysis reconciles the results of previous studies by exploring differences in method and data. We also identify the broad contributions and limitations of the research, and suggest avenues for further study. New approaches are necessary to generate significant insights about the relationships between industry, corporate-parent, and business influences on firm profitability.

Full text of this article is available at Informs PubsOnline

**"The Persistence of Shocks to Profitability"**
Michael E. Porter and Anita McGahan
*Review of Economics and Statistics*
81, no. 1, February 1999: 143-153.
In this study, we use data for 1981 through 1994 on a large sample of U.S. companies to examine the persistence of incremental industry, corporate-parent, and business-specific effects on profitability. Our results indicate that the incremental effects of industry on profitability persist longer than the incremental effects of the corporate parent and of the specific business. Changes in industry structure have a more persistent impact on profitability than do changes in firm structure.

**"How Much Does Industry Matter, Really?"**
(full text available)
Anita McGahan and Michael E. Porter
*Strategic Management Journal* July 18, 1997: 15-30.
In this paper, we examine the importance of year, industry, corporate-parent, and business-specific effects on the profitability of U.S. public corporations within specific 4-digit SIC categories. Our results indicate that year, industry, corporate-parent, and business-specific effects account for 2 percent, 19 percent, 4 percent, and 32 percent, respectively, of the aggregate variance in profitability. We also find that the importance of the effects differs substantially across broad economic sectors. Industry effects account for a smaller portion of profit variance in manufacturing but a larger portion in lodging/entertainment, services, wholesale/retail trade, and transportation. Across all sectors we find a negative covariance between corporate-parent and industry effects. A detailed analysis suggests that industry, corporate-parent, and business-specific effects are related in complex ways.

**"The emergence and sustainability of abnormal profits"**
Anita M. McGahan and Michael E. Porter
*Strategic Organization*, February 2003
In this paper, we examine the emergence and the sustainability of abnormal profits among businesses that were part of U.S. public corporations between 1981 and 1994 and that reported financial results for at least six years. Our results reveal strong asymmetries between high and low performers. Overall, high performance is more stable than low performance. High performers show profits above the average a decade earlier. In contrast, low performers show profits that are slightly above average a decade earlier. Industry and corporate-parent effects influence high performance to a far greater degree than low performance. Low performance is dominated by business-specific effects.

## FOOTNOTE 10: http://www.gartner.com/it/about_gartner.jsp

Gartner, Inc. (NYSE: IT) is the world's leading information technology research and advisory company. We deliver the technology-related insight necessary for our clients to make the right decisions, every day. From CIOs and senior IT leaders in corporations and government agencies, to business leaders in high-tech and telecom enterprises and professional services firms, to technology investors, we are the indispensable partner to 60,000 clients in 10,000 distinct organizations. Through the resources of Gartner Research, Gartner Executive Programs, Gartner Consulting and Gartner Events, we work with every client to research, analyze and interpret the business of IT within the context of their individual role. Founded in 1979, Gartner is headquartered in Stamford, Connecticut, U.S.A., and has 4,000 associates, including 1,200 research analysts and consultants in 75 countries.

- We invite you to watch a corporate overview. (FORMATS: Quicktime | Windows Media)

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While we are the largest company of our kind, we remain highly accessible to our clients. Gartner was founded in 1979 by technology thinkers who saw the growing need for well-researched, independent advice. Our culture is still based on the diligent work of exceptional thinkers acting together to apply the very latest knowledge rapidly and effectively.

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- **General Contacts**
- **Vendor Contacts**
- **Investor Contacts**
- **Media Contacts**

- **Office of the Ombudsman**
- **Ask an Analyst**

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- **Research**
- **Events**
- **Consulting**
- **Executive Programs**

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100

## FOOTNOTE 11: http://www.csc.com/newsandevents/news/657.shtml

**News Release** -- October 26, 2000

**PENNANT ALLIANCE SELECTED FOR OUTSOURCING CONTRACT TO ESTABLISH VIRTUAL GOVERNMENT FOR**

San Diego, Calif., Oct. 26 -- The Pennant Alliance, a consortium of companies led by Computer Sciences Corporation (NYSE: CSC), has been selected to create a virtual government for the County of San Diego that will provide its citizens greater accessibility to County services. The San Diego County Board of Supervisors announced the contract award late today following a unanimous 4 to 0 approval vote.

The contract is valued at $644 million over seven years and has three additional one-year option periods. The selection of the Pennant Alliance culminates a 15-month competitive phase and represents the largest information technology outsourcing project carried out by a local government agency in the United States.

The Pennant Alliance combines the unique local and global capabilities of four world-class companies: CSC, Science Applications International Corporation (SAIC), an employee-owned company based in San Diego, Pacific Bell (NYSE: SBC), and Lucent Technologies (NYSE: LU). Together, these companies employ more than 11,000 county residents (with an annual payroll of nearly $600 million) and account for more than $70 million in local purchases annually.

The contract covers the full spectrum of information and telecommunications services that will now transition to the Pennant Alliance, including applications, help desk, networks, desktop and data center operations, telephones and pagers. Approximately 290 county employees now have the option to join CSC or SAIC with an immediate seven percent base salary increase plus guaranteed employment in San Diego County for minimum of two years.

"We are elated that the County leadership has recognized the Pennant Alliance as its true home team information technology outsourcing partner," said Van B. Honeycutt, chairman, president and CEO of CSC. "We salute the vision and the decisiveness of the County Board of Supervisors as we move forward together to adapt technology and the best commercial practices to provide better customer service to all County citizens."

While all County departments will be covered by the contract, the Sheriff and District Attorney's offices will take part in selected portions that involve new telephones, desktop computers and e-mail connectivity with other County departments. Both

departments will retain applications specific to their departments, such as the Sheriff's Jail Information Management System and the DA's child support collection system.

"Never before in the history of this country has a county government embarked on such a large-scale partnership with the private sector," said Dr. J. Robert Beyster, chairman and CEO, SAIC. "We are confident our partnership will establish precedent-setting results which will enhance County services and save taxpayer dollars." In building its solution for the County, the Pennant Alliance has stressed evolutionary, rather than revolutionary processes.

"We will jointly introduce bold new steps to rethink, reinvent and redesign key processes that deliver County services," said CSC's Richard Jennings, lead executive of Pennant Alliance. "Our solution is focused on the perspective of the customer, because as County citizens, we too are the customer and realize the benefits that can be achieved through technology and innovation."

The Pennant Alliance will support the County from CSC's existing consolidated data center in Kearny Mesa as well as SAIC's facilities on Campus Point Drive. Network and telecommunications services will include Pacific Bell's countywide infrastructure and equipment and the expertise of Lucent Technologies and Telecordia Technologies, an SAIC subsidiary.

Initial tasks include technology upgrades to the County's local and wide area networks, and establishing online multilingual kiosks that provide a directory of County services, government forms and applications, job postings, animal shelter information and a calendar of events via the Internet. In addition, the Pennant Alliance will fund, at no expense to the taxpayer, a non-profit San Diego Futures Foundation that will provide a full range of hardware, software and educational components to members of the community who may be "digitally disadvantaged."

Today's contract award completes a source selection process that involved competing teams led by CSC, EDS and IBM. Additional information about the Pennant Alliance may be obtained at www.pennantalliance.com.

Computer Sciences Corporation helps clients in industry and government use information technology to achieve strategic and operational objectives. With 54,000 employees in more than 700 offices worldwide, the company tailors solutions from a broad suite of integrated service and technology offerings, including e-business strategies and technologies; management and I/T consulting; systems development and integration; application software; and I/T and business process outsourcing. Since its formation in 1959, CSC has been known for its flexibility in its relationships with clients. Through numerous agreements with hardware and software technology

firms, the company is able to identify and manage solutions specifically tailored to each client's needs. CSC had revenues of $8.2 billion for the twelve months ended October 1, 1999. Its headquarters are in El Segundo, California. For more information, visit the company's web site at www.csc.com.

**Editors Note:** Following Pennant Alliance company profiles and media contacts are provided for your information and convenience. CSC is prominent in both commercial and federal markets and a global leader in bringing commercial best practices together with large-scale program management skills. The company is a world leader in the science of information technology and its application to achieve clients' business objectives. No other company offers the range of professional services at the level of quality CSC provides-from consulting in the strategic use of information to systems design and development, systems integration and outsourcing.

**Media Contact:** John F. Gulick, 858.573.4143 or 619.743.3241, jgulick,@csc.com

SAIC is the nation's largest employee-owned research and engineering company, providing information technology and systems integration products and services to government and commercial customers. SAIC scientists and engineers work to solve complex technical problems in telecommunications, national security, health care, transportation, energy, the environment, and financial services. With annual revenues of $4.7 billion, SAIC and its subsidiaries, including Telcordia Technologies (formerly Bellcore), have more than 38,000 employees at offices in more than 150 cities worldwide. More information about SAIC can be found on the Internet at www.saic.com.

**Media Contact:** Jane Van Ryan, 703.734.4097, vanryanj@saic.com

Pacific Bell, a subsidiary of SBC Communications Inc., is San Diego County's third largest employer with more than 5,500 local employees. Pacific Bell offers local and long distance telephone service, wireless communications, data communications, paging, Internet access, and messaging, as well as telecommunications equipment. Pacific Bell possesses extensive knowledge and a long-term working relationship with the County and the local telecommunications infrastructure.

**Media Contact:** 619.237.2430, maurice.luque@pactel.com

Lucent Technologies designs, builds and delivers a wide range of public and private networks, communications systems and software, data networking systems, business telephone systems and microelectronic components. Bell Labs is the research and development arm of the company.

**Media Contact:** Dick Tripp, 949.582.8718, dtripp@lucent.com

**TITLE:** A BUSINESS PROCESS FOR INCREASING WIN PROBABILITY IN LARGE COMPLEX CONTRACT COMPETITIONS

**INVENTOR:** STEPHANY JEAN HEAD, Ph.D.

**ATTY.DKT:** 4803.100

## FOOTNOTE 12: http://www.sourcingmag.com/blog/archive/abn_amro_awards_major_outsourcing_contract.html

**6 September 2005** by **Karen Watterson**

Printable version | Email to a friend

**ABN Amro Awards Major Outsourcing Contract**

On 9/1/05, Dutch banking giant ABN AMRO awarded a major five-year IT outsourcing contract to five vendors, headed by IBM. Three Indian technology companies, Tata Consultancy Services (TCS), Infosys, and Patni Computers, will provide application support and some development.
The deal is part of ABN Amro's efficiency program announced last December.
According to Edward Taylor's 9/1/05 *The Wall Street Journal* article, 1,800 ABN jobs will be transferred to IBM and 200 jobs will move to TCS, with another 1,500 full-time information-technology jobs being eliminated. The bank will retain 1,800 information-technology jobs, performing "strategic functions such as testing new software applications on legacy systems," as well as handling sensitive security-related issues.
According to Eric Bellman's WSJ article the next day, the deal is significant because, until now, Indian software companies have dealt predominantly with US-based clients with "less than 25% of revenue at both Infosys and Tata Consultancy [coming] from Europe."
References:
ABN Amro press release.
http://www.abnamro.com/pressroom/releases/2005/2005-09-01-en.jsp
TCS press release.
http://www.tata.com/tcs/media/20050902.htm
Patni Computers press release.
http://www.patni.com/newsroom/press-release/2005/ABN-AMRO-Win.pdf
Infosys press release.
http://www.infosys.com/media/press_releases/five-year-global-it-deal-abn-amro.asp
"ABN Amro Signs Outsourcing Deal," WSJ, 9/1/05
"Indian Outsourcing Scores a Milestone," WSJ, 9/2/05
Asian Age coverage.
http://www.asianage.com/main.asp?RF=DefaultMain&layout=2&cat1=7&cat2=50&newsid=178107

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